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IN THE SPECIFICATION:

Please see attached substitute specification.

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Voltage Booster Power Supply Circuit

Field of the Invention

The present invention relates to a voltage booster circuit that generates a voltage required for a function block (for example, a memory device) consisting of semiconductor integrated circuits.

Background of the Invention

A conventional voltage booster circuit is supplied with a single power supply as an external power source. If a voltage more than twice as high as that generated by the external power source is required, an arrangement such as a voltage tripler is used. If the voltage supplied by an external power source is relatively high, the entire voltage booster circuit is formed by a transistor having a relatively thick gate oxide film (see Japanese Patent Laid-Open No. 2001-250381, for example).

It is difficult for a conventional voltage booster circuit, which is supplied with one power supply as an external power source, to provide a sufficient supply capacity if the voltage of the external power source is low. Although a required voltage can be achieved by using a voltage tripler, the efficiency of current conversion will be significantly reduced.

If the voltage of the external power source is adequately high, then the entire voltage booster circuit must be formed with a transistor having a relatively thick gate oxide film, which takes up more circuit space. Furthermore, if the voltage of the external power source

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